

Remarks

Claims 1-30 are currently pending and under consideration. Claims 11, 16 and 27-30 have been amended. In view of the above amendments and the following remarks, reconsideration and further examination are respectfully requested.

In paragraph 2 of the October 18, 2005 Office Action, the Office objects to informalities in claims 27-30. Applicants have amended each of claims 27-30 to recite, "The apparatus of claim 25 further comprising" As such, Applicants assert that claims 27-30, as amended, contain no informalities and request the Office to withdraw its objections.

In paragraph 3 of the Office Action, the Office preliminarily rejects claims 1-14 and 16-30 under 35 U.S.C. § 103(a) as being unpatentable over Walton (U.S. Patent No. 5,966,073) in view of Machi (U.S. Patent Application Publication No. 2004/0196646). In traversal, Applicants respectfully submit that a *prima facie* case of obviousness has not been established because there is no proper suggestion or motivation to combine the cited references. Moreover, even if the references are assumed to be combinable, there is no reasonable expectation that the device taught by the combination of Walton and Machi would operate for its intended purpose. Applicants submit that, when properly considered, the only suggestion of the presently claimed invention is provided by the present application itself. Finally, secondary considerations indicate that the present invention is not obvious.

"To establish a *prima facie* case of obviousness ... there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to ... combine reference teachings. Second, there must be a reasonable expectation of success.... The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." MPEP § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). In an obviousness analysis, "[o]bjective evidence or secondary considerations such as ... commercial success, long-felt need [and] failure of others ... are relevant to the issue of obviousness and must be considered in every case in which they are present." MPEP § 2141(III). The prior art must be taken only for what it would teach or suggest to a person of

ordinary skill in the art at the time of the invention, without using impermissible hindsight. Moreover, “[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much as it will support a given position, to the exclusion of other parts necessary to the full appreciation of what such references fairly suggests to one of ordinary skill in the art.” *In re Wesslau*, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965).

There Is No Suggestion Or Motivation To Combine Reference Teachings

In the first paragraph on page 3 of the October 18, 2005 Office Action, the Office states that:

It would have been obvious to one of ordinary skill in the art to implement side-emitting LED instead of conventional top-emitting or all-round-emitting LED because the side-emitting LED would concentrate the emitting direction on the side while the light sources are correlate with the side reflector plate. It would save the extra top reflector plate for light concentration when using the conventional LED.

However, without the benefit of the hindsight gained from viewing the present application, one of ordinary skill in the art at the time of the invention would not have combined Machi with Walton.

As a threshold matter, Walton and Machi are non-analogous. *See, In re Oetiker*, 977 F.2d 1443, 1446-1447, 24 USPQ 2d 1443, 1445-46, (Fed. Cir. 1992) (Federal Circuit rejected the argument that “all hooking problems are analogous” and found no basis for concluding that “a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments.”). First, on their face, Walton and Machi are related to two very different fields of endeavor. Walton is concerned with “signal lights for road vehicles” that are intended to provide “a strong visual indication that the vehicle is braking” to “pedestrians and other drivers on the road.” Walton, column 1, lines 10-17 and column 2, line 19. In fact, automotive lighting is generally intended to attract a person’s attention at great distances. In contrast, Machi is concerned with aircraft *formation lights*. Aircraft formation lights are very dim. This is in contrast to other types of aircraft lighting, such as position or anti-collision lights, that are intended to be visible at great distances. Formation lights are used primarily by the military, and are intended to be visible only to “other aircraft flying in *close proximity*,” and are intended to *avoid* catching a person’s attention at great distances, such as an enemy desiring to shoot down the airplane. Machi, paragraph 0003

(emphasis added). As such, a person of ordinary skill, seeking to provide a strong visual indication that the vehicle is braking would not reasonably be expected or motivated to look to aircraft formation lights that are relatively dim and only visible to other aircraft flying in close proximity.

Additionally, the different operating and regulatory environments in which Walton and Machi operate further indicate that one of ordinary skill in the art of Walton would not be motivated to look to Machi. The passenger vehicles in Walton travel on the ground at relatively low speeds, for example, below one hundred miles per hour, where the aerodynamic drag of objects attached to the passenger vehicle is not critical. Conversely, Machi is concerned with military aircraft that can exceed the speed of sound (approximately 700 miles per hour), where the aerodynamic drag of objects attached to the aircraft is extremely critical, requiring the formation lights to be flush-mounted with the aircraft. Machi is further concerned with light indicators that are required to operate in extreme conditions that passenger vehicle lights do not, for example, high acceleration (up to 10 times the acceleration of gravity), high vibration, low temperature (below negative 30 degrees Fahrenheit) and high-altitude/low-pressure. Aircraft lighting must also comply with Federal Aviation Administration regulations that impose requirements on aircraft components that are very different from passenger vehicle components, and which typically make aircraft components much more expensive than similar automotive components. Due at least to these operational and regulatory differences, one of ordinary skill in the automotive lighting industry would not be motivated to look to the military aircraft component industry.

For at least these reasons, Applicants respectfully assert that there is no suggestion or motivation to combine Walton with Machi.

There Is No Reasonable Expectation Of Success

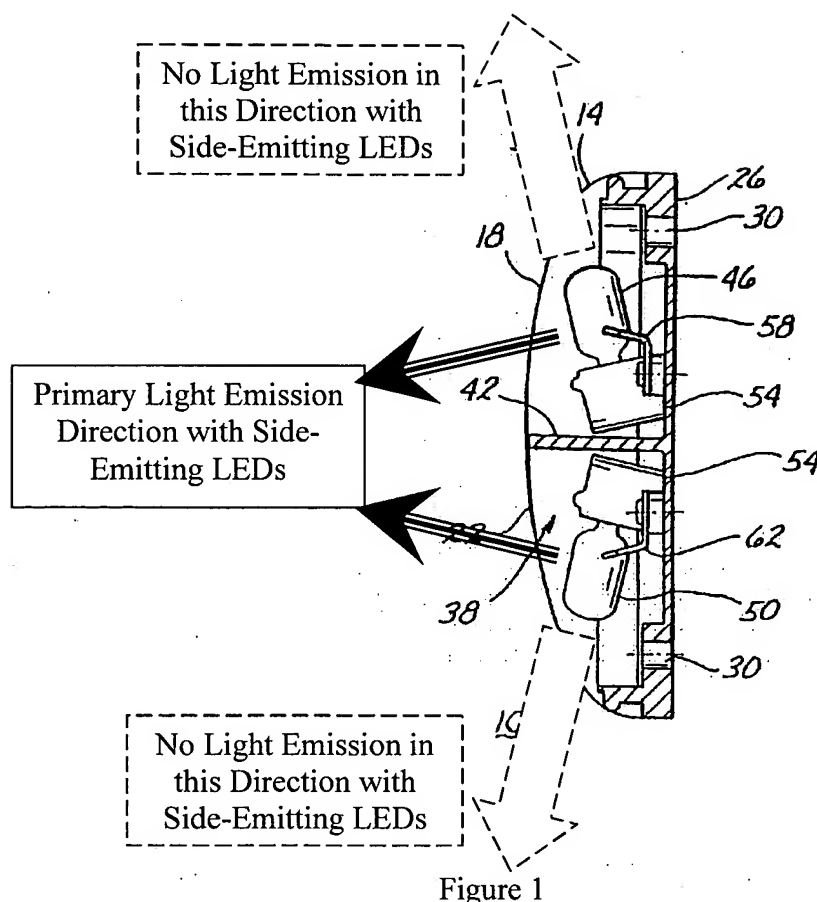
Even assuming that there was a motivation to combine Walton with Machi, there is no reasonable expectation that the resulting device would work for its intended purpose without additional structural modifications that are not taught or suggested by either reference. Machi indicates that additional modification is *required* if side-emitting LEDs are to be used in place of conventional LEDs. For example, Machi indicates that the location and orientation of the light

sources must be changed if side-emitting LEDs are to replace conventional LEDs in FIG. 2A of Machi:

In FIG. 2A, each set of diode light sources 30 is comprised of individual diode light sources 32 (e.g. LED or IR diodes) that are mounted or affixed to a surface substantially perpendicular to the base 10. It should be noted that each set of diode light sources may be also mounted on the base 10 if side-emitting diode light sources are used.

Machi, paragraph 0037. Paragraph 7 of the attached Declaration under 37 CFR 1.132 by Newel Stephens, an inventor of the current invention, also indicates that side-emitting LEDs are not interchangeable with conventional LEDs.

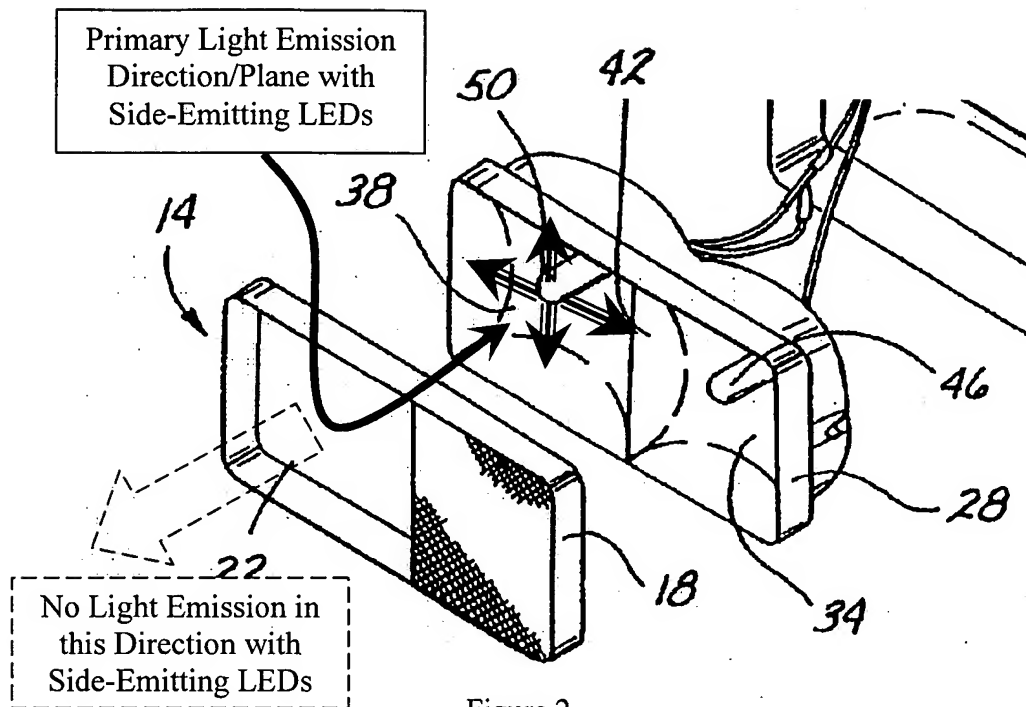
However, although Machi may teach that there must be some changes if using side-emitting LEDs in lieu of conventional LEDs, Machi does not teach or suggest *what* changes one of ordinary skill would be required to make if replacing the lamps in FIGs 3 and 4 of Walton with side-emitting LEDs. As an example, the Office suggests on page 2, paragraph 3, of the Office Action that side-emitting LEDs could replace Walton's lamps 46 and 50 in FIGs. 3 and 4. However, replacing Walton's lamps 46 and 50 with side-emitting LEDs would result in Walton's stop/turn light 10 being unable to meet Walton's "main objective," which "is to provide persons to the front and side of an automobile with a strong visual indication that the vehicle is braking." Walton, column 2, lines 18-20. Indeed, the Office's suggested stop/turn light would not be "prominently visible for approximately 180 degrees to individuals on either side of the vehicle" as required by Walton. Walton, Column 3, lines 63-65. As an illustration, if lamps 46 and 50 in Walton's FIG. 3 were replaced by side-emitting LEDs, which emit light laterally (*see* specification, page 7, lines 14-16, and the Declaration Under 37 CFR 1.132 by Newel Stephens, paragraph 7 (attached)), the resulting stop/turn light 10 would only emit light to the sides of a vehicle as indicated in Figure 1 below. The light emitted from this suggested indicator would *not* be prominently visible for approximately 180 degrees as required by Walton.



Primary Light Emission Direction in Walton FIG. 3

A similar result occurs when replacing lamps 46 and 50 in the apparatus depicted in FIG. 4 of Walton with side-emitting light-emitting diodes, as indicated in Figure 2 below. In this particular example, light would be emitted from lamps 46 and 50 in a plane that is approximately parallel to the side of the vehicle (approximately equal to the primary plane represented by lens 14, which is perpendicular to separator 42) and would be reflected back into stop/turn light 10 by reflector 28. As such, very little light would be emitted through lens 14 rendering the device unsuitable for the main objective behind Walton.

Therefore, for at least these reasons, Applicants assert that there is no reasonable expectation of success even if Walton and Machi are assumed to be combinable.

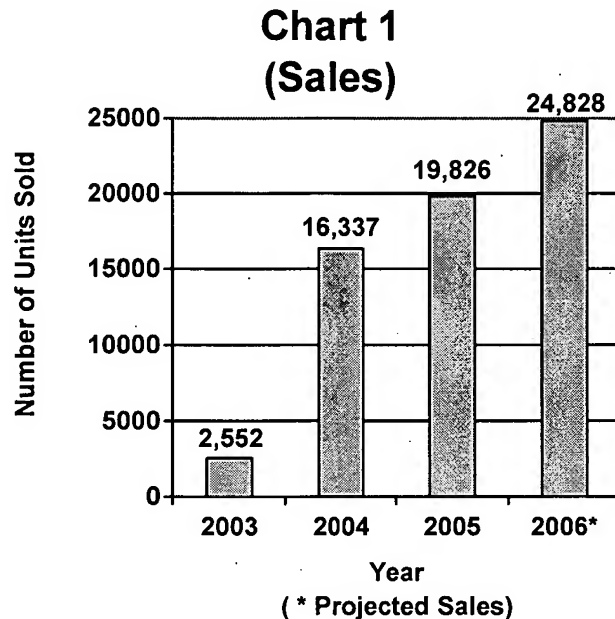


Primary Light Emission Plane in Walton FIG. 4

Secondary Considerations Indicate The Current Invention Is Not Obvious

As further indicia that the current invention is not obvious, Applicants respectfully submit a declaration by one of the inventors of the current invention, Newel Stephens, who is an expert in the vehicle indicator industry. Mr. Stephens has been a designer in the vehicle indicator industry for approximately ten years and is currently employed by a major manufacturer of vehicle indicators. March 17, 2006 Declaration, paragraph 3. Mr. Stephens indicates in paragraph 6 of his March 17, 2006 Declaration that there has been a long felt yet unresolved demand that all vehicle indicators, for example side-mounted turn indicators, have lower power consumption and higher durability characteristics than incandescent lamp indicators while meeting appropriate governmental standards. Mr. Stephens states that there has also been an inability in the vehicle indicator industry for approximately five years to produce an indicator with LEDs that is capable of achieving the high-angle dispersion and intensity requirements for a side-mounted turn signal. March 17, 2006 Declaration, paragraph 6. Furthermore, Mr. Stephens indicates that there has been a strong demand for a commercial embodiment of the present invention (Grote Industries' Side Turn/Marker Lamp Model No. 52323) with sales increasing from approximately 2,500 in 2003 to almost 20,000 in 2005, and with projected sales nearing

25,000 units in 2006. March 17, 2006 Declaration, Chart 1 (reproduced below). While these are impressive sales figures when viewed in isolation, they are truly remarkable when considering that sales figures are for a vehicle indicator that costs *over ten times* what the equivalent product without side-emitting LEDs costs, and with there having been no special advertising effort or campaign for the Grote model 52323 indicator above that received by similar new products. March 17, 2006 Declaration, paragraph 10.



As such, secondary considerations indicate that the current invention, as claimed, is not obvious.

In paragraph 4 of the Office Action, the Office preliminarily rejects claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Walton in view of Machi, in further view of Bromer (U.S. Patent No. 6,476,715). Applicants respectfully traverse and assert that claim 15 is dependent on claim 1, which is patentable as indicated above, and claim 15 is patentable for at least its dependency on a patentable claim.

In summary, Applicants respectfully assert that there is no suggestion or motivation to combine reference teachings, no reasonable expectation of success even if the reference teachings are combined, and that secondary considerations indicate the current invention is not obvious. As such, Applicants respectfully assert that claims 1, 16 and 25 are patentable under 35

U.S.C. § 103(a) over Walton in view of Machi. Claims 2-15, 17-24 and 26-30 are dependent on claims 1, 16 and 25, and are allowable for at least this reason.

It should be understood that the above remarks are not intended to provide an exhaustive basis for patentability or concede the basis for the rejections in the Office Action, but are simply provided to overcome the rejections made in the Office Action in the most expedient fashion.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance, and the Examiner is requested to pass the case to issue. If the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact Applicants' undersigned representative.

Respectfully submitted,

By 

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